

Amendments to the Claims

Claim 1 (Original): A sunscreen composition comprising:

- a) a carotenoid or a carotenoid derivative having sunscreen activity;
- b) a polyphenolic compound or a polyphenolic compound derivative having sunscreen activity;
- c) a light absorbing amino acid having sunscreen activity or a light absorbing amino acid derivative having sunscreen activity; and
- d) a carrier.

Claim 2 (Original): The composition of claim 1, wherein the carotenoid comprises a cyanobacterial carotenoid.

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Claim 3 (Original): The composition of claim 2, wherein the carotenoid comprises a compound selected from the group consisting of 13-carotene, lutein, neoxanthin, zeaxanthin, violaxanthin, antheraxanthin, caloxanthin, nostoxanthin, echinenone, canthexanthin, oscillaxanthin and myxoxanthophyll.

Claim 4 (Original): The composition of claim 1, wherein the polyphenolic compound comprises a cyanobacterial polyphenolic compound.

Claim 5 (Original): The composition of claim 4, wherein the polyphenolic compound comprises scytonemin.

Claim 6 (Original): The composition of claim 1, wherein the amino acid comprises a mycosporine amino acid.

Claim 7 (Original): The composition of claim 6, wherein the mycosporine amino acid comprises a compound selected from the group consisting of mycosporine-glycine, palythine, asterina-330, palythanol, palythene, porphyra-334, mycosporineglycine:valine and shinorine.

Claim 8 (Original): The sunscreen composition of claim 1, further comprising at least one cosmetically acceptable adjuvant or additive.

Claim 9 (Original): A sunscreen composition comprising a carrier and an effective amount of a heteroautotrophic cell extract or a photoautotrophic cell extract, the extract having sunscreen activity, the cells having been cultured under conditions of high excitation pressure.

Claim 10 (Original): The composition of claim 1 wherein the carrier is at least one of either water, a gas, a water-based liquid, an oil, a gel, an emulsion, a dispersion or a mixture thereof.

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Claim 11 (Original): A personal care product comprising the composition of claim 1.

Claim 12 (Original): A method for protecting the human skin, human hair or another surface from solar radiation, comprising topically applying thereto an effective amount of the sunscreen composition of claim 1.

Claim 13 (Withdrawn): A method of inducing a photoautotrophic cell or heterotrophic cell to produce a compound for absorption of solar radiation, the method comprising culturing the cell under conditions of high excitation pressure.

Claim 14 (Original): A sunscreen composition, comprising at least one compound of claim 13.

Claim 15 (Withdrawn): A method of producing an extract having an increased concentration of at least one of myxoxanthophyll, scytonemin and/or mycosporine amino acid, the method comprising:

- a) culturing cyanobacteda under conditions of high excitation pressure; and b) isolating an extract including at least one of myxoxanthophyll, scytonemin and mycosporine amino acid.

Claim 16 (Withdrawn): A method of determining the sunscreen activity of an extract, comprising: extracting photoautotrophic cells to produce a solution; producing an aqueous filter containing the extract; determining whether the aqueous filter protects photosystem I or II from UV radiation wherein improved protection from UV radiation indicates that the compound has sunscreen activity.

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Claim 17 (Withdrawn): A method for protecting human eyes from solar radiation, comprising applying at least one of a carotenoid, a polyphenolic compound and/or a mycosporine amino acid or a derivative of a carotenoid, a polyphenolic compound or a mycosporine amino acid to an eye wear lens or a window.

Claim 18 (Withdrawn): A method of reducing degradation of a chemical that is sensitive to ultraviolet light comprising applying the composition of claim 1 to the chemical.

Claim ~~19~~ (Original): The composition of claim 1, wherein the amino acid or amino acid derivative is selected from the group consisting of tyrosine, tryptophan, a tyrosine derivative having sunscreen activity and a tryptophan derivative having sunscreen activity.

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